complementary to SEQ ID NO:1. In various embodiments, the polynucleotide is the full-length sequence of SEQ ID NO:1, encodes a CCX CKR polypeptide of the invention (e.g., having the sequence of SEQ ID NO:2 or a fragment thereof), or selectively hybridizes under high stringent hybridization conditions to a polynucleotide sequence of SEQ ID NO:1. The polynucleotide of the invention may be operably linked to a promoter. The invention provides recombinant vector (e.g., an expression vector) expressing the CCX CKR polypeptides of the invention. In one aspect, the invention provides a polynucleotide having sequence encoding a polypeptide that has an activity (e.g., a chemokine binding activity) of a CCX CKR polypeptide and which is (a) a polynucleotide having the sequence of SEQ ID NO:1 or SEQ ID NO:3; or (b) a polynucleotide which hybridizes under stringent conditions to (a); or (c) a polynucleotide sequence which is degenerate as a result of the genetic code to the sequences defined in (a) or (b).--

A2 cont

Please replace the paragraph beginning at page 5, line 3 with the following:

--Figure 1 shows the nucleotide sequence for a human CCX CKR (SEQ ID NO:1) and the predicted amino acid sequence of the human CCX CKR polypeptide (SEQ ID NOS:2 and 12-14).--

Please replace the paragraph beginning at page 5, line 7 with the following:

--Figure 2 shows the CCX CKR sequence aligned with those of other chemokine receptors, the expression pattern of CCX CKR RNA, and generation of a stable cell line expressing CCX CKR. Figure 2A shows sequence homology of the CCX CKR coding region (SEQ ID NO:2) with other chemokine receptors (SEQ ID NOS:6-9). Figure 2B shows cells and tissues expressing CCX CKR RNA, as analyzed by RT-PCR of cytoplasmic RNA from cultured primary cells and whole tissues from various organs as indicated. Figure 2C shows a population of transfected HEK-293 cells stably expressing CCX CKR protein containing an N-terminal Flag epitope, comparing intensity of anti-Flag mAb staining relative to wild type HEK293 cells.--

A3

Please replace the paragraph beginning at page 6, line 13 with the following:

--Figure 5 shows DNA sequence 5' to the translation start site of the CCX CKR gene (SEQ ID NOS:10 and 11), as determined from a genomic clone.--

A4

Please replace the paragraph beginning at page 17, line 4 with the following:

--Typically, the CCX CKR variants are structurally and functionally similar to the CCX CKR allele having the sequence of SEQ ID NO:2. Structural similarity is indicated by, e.g., substantial sequence identity (as defined above), or immunological cross-reactivity. Functional similarity is indicated by, e.g., a ligand-binding specificity similar to or the same as that of the naturally occurring CCX CKR allele CCX CKR allele having the sequence of SEQ ID NO:2 (e.g., binding ELC, SLC, and TECK with high affinity). In some embodiments, the CCX CKR polypeptide of the invention is a fusion protein or a fragment (e.g., a ligand binding fragment) of the full-length polypeptide encoded in SEQ ID NO:2. As used in this context, a "ligand binding fragment" of CCX CKR is a fragment of the receptor polypeptide that binds ELC (e.g., human or mouse ELC), SLC (human or mouse), or TECK (human or mouse) with high affinity (e.g., an apparent Ki or relational IC50 of less than about 15 nM) or moderate affinity (e.g., an apparent Ki or relational IC50 of at between about 15 and about 200 nM). Suitable assays for detecting binding are well known in the art. See, e.g., E.C Hulme "Receptor-Ligand Interactions" in A PRACTICAL APPROACH/ THE PRACTICAL APPROACH SERIES (Series Eds D. Rickwood and BD Hames) IRL Press at Oxford University Press (1992), especially Ch. 6, Wang et al., "The se of the filtration technique in *in vitro* radioligand binding assays for membrane-bound and solubilized receptors," and Ch. 7, Hulme et al., "Centrifugation binding assays"; see also, Sissors et al., 1999, "A Homologous Receptor Binding Assay for HTS on FlashPlate plusNEN Life Science Products inc, Boston, MA 02118.--

Please replace the paragraph beginning at page 20, line 17 with the following:

--In one aspect, the invention provides a polynucleotide having a sequence or subsequence of a mammalian (e.g., rat or human) CCX CKR gene or RNA. The polynucleotides of the invention (*e.g.*, RNA, DNA, PNA or chimeras), may be single-stranded, double stranded, or a mixed hybrid. In one embodiment, the polynucleotide has a sequence of SEQ ID NO:1 (Figure 1) or subsequences thereof (e.g., comprising at least 15, at least 25, at least 50, at least 100, at least 200, or at least 500 bases of the polynucleotides and variants of the invention). The invention also provides polynucleotides with substantial sequence identity to the CCX CKR polynucleotides disclosed herein. Thus, the invention provides naturally occurring alleles of mammalian (e.g., human) CCX CKR genes such as human allelic variants of the CCX CKR polynucleotides of SEQ ID NO:1.--

Please replace the paragraph beginning at page 20, line 27 with the following:

--As described *infra*, in some embodiments the polynucleotide of the invention encodes a polypeptide with substantial sequence similarity to SEQ ID NO:2 (Figure 1) or encodes a fragment of such a polypeptide (e.g., a fusion protein). Also contemplated are polynucleotides that, due to the degeneracy of the genetic code, are not substantially similar to SEQ ID NO:1, but encode the polypeptide of SEQ ID NO:2 or a fragment thereof. In other embodiments, the invention provides CCX CKR polynucleotides that do not necessarily encode CCX CKR polypeptide but which are useful as *e.g.*, probes, primers, antisense, triplex, or ribozyme reagents, and the like.--

Please replace the paragraph beginning at page 21, line 19 with the following:

--In one aspect, the invention provides polynucleotides encoding CCX CKR polypeptides such as an CCX CKR polypeptide having the sequence of SEQ ID NO:2, a fragment thereof, a variant thereof (*e.g.*, a conservative or allelic variant), or a CCX CKR fusion polypeptide. In one embodiment, the polynucleotide of the invention comprises the sequence of SEQ ID NO:1 or a fragment thereof. In another embodiment, the polynucleotide encodes a naturally occurring CCX CKR polypeptide or fragment, but has a sequence that differs from SEQ ID NO:1 (*e.g.*, as a result of the degeneracy of the genetic code). In some embodiments of the invention, the polynucleotide is other than the expressed sequence tags H67224, AI131555, AA215577, AW190975 or AI769466 or the polynucleotide encoding bovine PPR1 (Matsuoka et al,., 1993, *Biochem Biophys Res Comm* 194:540-11).--

Please replace the paragraph beginning at page 22, line 26 with the following:

--In one embodiment, the invention provides oligonucleotide or polynucleotide probes and/or primers for detecting or amplifying CCX CKR polynucleotides. In various embodiments, the polynucleotides (e.g., probes and primers) comprise at least 10 contiguous bases identical or exactly complementary to SEQ ID NO:1, usually at least 12 bases, typically at least 15 bases, generally at least 18 bases and often at least 25, at least 50, or at least 100 bases When the CCX CKR polynucleotides of the invention are used as probes or primers they are generally less that about 3000 bases in length; typically they contain between about 12 and about 100 contiguous nucleotides identical or exactly complementary to SEQ ID NO:1, more often between about 12 and about 50

contiguous nucleotides, even more often between about 15 and about 25 contiguous nucleotides.--

Please replace the paragraph beginning at page 24, line 27 with the following:

--The antisense nucleic acids (DNA, RNA, modified, analogues, and the like) can be made using any suitable method for producing a nucleic acid, such as the chemical synthesis and recombinant methods disclosed herein. In one embodiment, for example, antisense RNA molecules of the invention may be prepared by *de novo* chemical synthesis or by cloning. For example, an antisense RNA that hybridizes to CCX CKR mRNA can be made by inserting (ligating) an CCX CKR DNA sequence (e.g., SEQ ID NO:1, or fragment thereof) in reverse orientation operably linked to a promoter in a vector (e.g., plasmid). Provided that the promoter and, preferably termination and polyadenylation signals, are properly positioned, the strand of the inserted sequence corresponding to the noncoding strand will be transcribed and act as an antisense oligonucleotide of the invention. The antisense oligonucleotides of the invention can be used to inhibit CCX CKR activity in cell-free extracts, cells, and animals, including mammals and humans.--

Please replace the paragraph beginning at page 27, line 21 with the following:

--Gene therapy refers to the introduction of an otherwise exogenous polynucleotide which produces a medically useful phenotypic effect upon the (typically) mammalian cell(s) into which it is transferred. In one aspect, the present invention provides gene therapy methods and compositions for treatment of CCX CKR-associated conditions. In illustrative embodiments, gene therapy involves introducing into a cell a vector that expresses an CCX CKR gene product (such as an CCX CKR protein substantially similar to the CCX CKR polypeptide having a sequence of SEQ ID NO:2, e.g., to increase CCX CKR activity, or an inhibitory CCX CKR polypeptide to reduce activity), expresses a nucleic acid having an CCX CKR gene or mRNA sequence (such as an antisense RNA, e.g., to reduce CCX CKR activity), expresses a polypeptide or polynucleotide that otherwise affects expression of CCX CKR gene products (e.g., a ribozyme directed to CCX CKR mRNA to reduce CCX CKR activity), or replaces or disrupts an endogenous CCX CKR sequence (e.g., gene replacement and gene knockout, respectively). Numerous other embodiments will be evident to one of skill upon review of the disclosure herein.--

Please replace the paragraph beginning at page 54, line 3 with the following: